

that Kimbara allegedly teaches a hydrogenation reactor and a dehydrogenation reactor 26 that may both contain a nickel catalyst capable of either reaction. Applicants' strongly disagree with the Examiner's allegations and submit that Kimbara does not teach or suggest the apparatus for generating hydrogen gas as recited in claims 1-28.

Applicants submit that Kimbara does not teach or suggest (1) a reaction tank as recited in claim 1, or a reaction-regeneration tank as recited in claim 6, containing therein a catalyst and a heater, (2) that the fuel forms a liquid-film on the catalyst as recited in claims 1 and 6, and (3) that one tank functions as both a reaction tank and a regeneration tank as recited in claim 6.

First, Applicants' submit that Kimbara does not teach or suggest a reaction tank as recited in claim 1, or a reaction-regeneration tank as recited in claim 6, containing therein a catalyst and a heater. The reaction tank recited in claim 1 and reaction-regeneration tank in claim 6 clearly include a catalyst and a heater therein. See Figure 1 of the specification, which clearly shows that the catalyst 18 and the first heater 22 are inside the reaction tank 20. Similarly, Figure 6 of the specification clearly demonstrates that the catalyst 66 and the heater 68 are contained within the reaction-regeneration tank.

In contrast, Kimbara teaches an auxiliary tank 20, which allegedly corresponds to the reaction tank. See Figure 1 of Kimbara. Clearly, the catalyst 24 and the first heater 23 are outside the auxiliary tank 20. See Figure 1 of Kimbara and column 6, lines 27-31 of Kimbara. In other words, Kimbara does not teach or suggest a reaction tank, or reaction-regeneration tank, containing therein a catalyst and a heater, as recited in claims 1 and 6.

Second, Applicants submit that Kimbara does not teach or suggest that the fuel forms a liquid-film on the catalyst as recited in claims 1 and 6. The liquid-film state required in claims 1 and 6 is a state in which the surface of the catalyst is slightly wetted with liquid fuel, and is very different from a state in which a catalyst is heavily soaked with a large amount of

liquid fuel. See page 13, lines 3-25 of the specification. By dehydrogenation of the fuel in the liquid-film on the surface of the catalyst, excellent reactivity is obtained in comparison to where the fuel is made to react on the surface of the catalyst in, for example, a gaseous state. See page 13, lines 3-25 of the specification.

As admitted by the Patent Office in the Office Action and during the December 6, 2005 interview, Kimbara merely teaches a liquid blowing over the catalyst in reactor 26. In other words, Kimbara does not teach or suggest a liquid-film formed over the catalyst as required in claims 1 and 6. Thus, the catalyst is not contained within the reaction tank as explained above, nor is a liquid-film formed on the catalyst.

Third, Applicants submit that Kimbara does not teach or suggest that one tank functions as both a reaction tank and a regeneration-tank as recited in claim 6. This argument was not responded to by the Patent Office in either the September 9, 2005 Office Action, nor the December 6, 2005 personal interview, although discussed.

The reaction-regeneration tank 70 is provided with a (1) reactor comprised of a heater 68 which is used during fuel dehydrogenation and naphthalene hydrogenation, and (2) a precious metal based catalyst 66. See page 26, lines 15-19 of the specification. A fuel recovering device 64 for recovering unreacted fuel and regenerated fuel in a liquid state is provided at an upper side of the reaction-regeneration tank 70. See page 26, lines 19-23 of the specification. Kimbara clearly does not teach or suggest one tank that functions as both a reaction tank and a regeneration tank.

For the foregoing reasons, Applicants submit that Kimbara does not teach or suggest all of the features recited in claims 1-28. Reconsideration and withdrawal of the rejection are thus respectfully requested.

II. Certified Priority Document

Applicants note that receipt of the certified copy of the priority document filed on February 26, 2002 has not been acknowledged by the Patent Office. As such, Applicants respectfully request such acknowledgement.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-28 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

Leana Levin

James A. Oliff
Registration No. 27,075

Leana Levin
Registration No. 51,939

JAO:LL/tlp

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OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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